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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,119	04/30/2001	Yitzhak Gilboa	5298-04700 PM00028	5235
35617	7590	04/08/2004	EXAMINER	
CONLEY ROSE, P.C. P.O. BOX 684908 AUSTIN, TX 78768			GOUDREAU, GEORGE A	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/846,119

Applicant(s)

GILBOA ET AL.

Examiner

George A. Goudreau

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-30 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 9, 12-15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 4, 7, 8, 10, 11 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

*George A. Goudreau*

GEORGE GOUDREAU  
PRIMARY EXAMINER

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, 5-6, 9, 12-15, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied in paragraphs 4 or 5 of the previous office action.

4. Claims 4, 7-8, 10-11, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 22-30 are allowed.

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6. Applicant's arguments filed 1-15-04 have been fully considered but they are not persuasive.

Applicant argues the following points regarding the examiner's rejection of their claimed subject matter.

-None of the prior art references teach or suggests a process for polishing a semiconductor to an elevation above an underlying layer using abrasive polishing process and subsequently etching portions of the semiconductor topography to expose the underlying layer.; and

-The examiner cannot reject applicant's claims under 103 by combining the teachings of Chen et. al. (6,063,689; or 6,136,713) with those of Sethuraman et. al. (5,972,124) to derive applicant's claimed invention since these references teach away from each other. Further, there is no motivation or suggestion provided in any of these references to combine the teachings of these references together in order to derive applicant's claimed invention.

The examiner must disagree.

-The examiner rejected applicant's claims under 103, and not under 102. It is therefore not necessary for the prior art to singularly teach applicant's claimed process as is purported by the applicant.; and

-There is motivation for combining the teachings of these references together to derive applicant's claimed invention, contrary to what applicant purports. Also, these references do not teach away from each other, which would prevent one skilled in the art from combining the teachings of these references together,

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contrary to what applicant purports. All of the references are directed toward the archival of the same goal (i.e.-the cmp planarization of dielectric materials used in the formation of a STI structure on a wafer) rendering it obvious to combine the teachings of these references together. Further, the fact that Seutheraman et. al. uses the fixed abrasive pad to cmp polish the SiO<sub>2</sub> layer down to the Si<sub>3</sub>N<sub>4</sub> polish stop layer in a 1 step process does not necessitate that Chen et. al. also conduct such a one step cmp polishing process in order for the teachings of these two references to be combined with each other. The examiner simply used Seutheraman et. al. to illustrate that it is obvious to use a fixed abrasive pad to cmp polish a SiO<sub>2</sub> layer during the formation of a STI structure instead of supplying the abrasive action in a cmp polishing process using an abrasive cmp slurry.; and

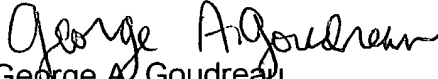
-Applicant has not presented the examiner with any data or arguments which demonstrate that the specific usage of a fixed abrasive pad in applicant's claimed process results in the archival of unexpected results which are not obtainable if the abrasive action in the cmp process is supplied via free floating abrasive particles in the cmp slurry as opposed to being supplied in the cmp polishing pad when a fixed abrasive pad is used.

7. This action will not be made final due to the new grounds of rejection.

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8. Any inquiry concerning this communication should be directed to examiner

George A. Goudreau at telephone number 571-272-1434.

  
George A. Goudreau  
Primary Examiner  
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